

# **EFFICIENT CLASSIFICATION OF CANCEROUS MASSES IN MAMMOGRAM**

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## **ABSTRACT**

Breast cancer is one of the most common forms of cancer in women. In order to reduce the death rate, early detection of cancerous regions in mammogram images is needed. The existing system is not so accurate and it is time consuming. The Proposed system is mainly used for automatic segmentation of the mammogram images and classifies them as benign, malignant or normal based on the decision tree ID3 algorithm. A hybrid method of data mining technique is used to predict the texture features which play a vital role in classification. The sensitivity, the specificity, positive prediction value and negative prediction value of the proposed algorithm were determined and compared with the existing algorithms. The size and the stages of the tumor is detected using the ellipsoid volume formula which is calculated over the segmented region. Automatic classification of the mammogram MRI images is done through three layered ANN. The weights are adjusted based on the rule extracted from ID3 algorithm. Both qualitative and quantitative methods are used to detect the accuracy of the proposed system. The sensitivity, the specificity, positive prediction value and negative prediction value of the proposed algorithm accounts to 99.78%, 99.9%, 94% and 98.5% which rates very high when compared to the existing algorithms. This paper focuses on the comparative analysis of the existing methods and the proposed technique in terms of sensitivity, specificity, accuracy, time consumption and ROC.

**KEYWORDS:** GLCM, Gabor filter, SOM, ANN and Data mining techniques.